

## **RESPONSE**

Claims 1 - 13 remain in this application. Claims 1 - 13 have been rejected. Claims 1 and 2 have been amended. Support for the amendment to the claims can be found on pages 22, 23, and elsewhere in the specification.

**The rejection of Claims 1 – 13 under 35 U.S.C. 103(a) as being unpatentable over King (GB 2,382,071) in view of King (U.S. Patent No. 4,084,717) is respectfully traversed.**

In establishing a prima facie case of obviousness, three criteria must be met:

- i. Some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; and
- ii. A reasonable expectation of success; and
- iii. The prior art reference (or references when combined) must teach or suggest all the claim limitations.

MPEP § 2143.

With respect to Claim 1, the Examiner takes the position that King '071 discloses a threaded container closure assembly (FIG. 1) comprising a container neck 10 having an opening; a closure 12 for said neck, the closure having a base portion 14 and a skirt portion 16; a first screw thread 18 on the neck, said first screw thread comprising one or more first thread segments, and a second screw thread 20 on an inner surface of the skirt of the closure, said second screw thread

comprising one or more second thread segments define a continuous helical thread path along which said closure travels from a fully disengaged to a fully secured position of the closure on the container neck and being configured to enable a user to secure remove and resecure the closure into a sealing position on the neck by rotation of the closure on the neck.

The Examiner however states that King '071 does not disclose a first locking projection on the container neck separate from the first thread segments and a second locking projection on the inner surface of the skirt of the closure separate from the second thread segments, said first and second locking projections being configured to resist unscrewing of the closure from the fully engaged position on the container neck after the closure has been secured or resecured on the container neck until a predetermined minimum opening torque is applied; wherein said first and second locking projections longitudinally overlap the first of the second thread segments when the closure is in the fully engaged position on the container neck; the first and second locking projections have a length in the longitudinal direction of from 2 mm to 6mm; the height of said locking projections is from 0.5 mm to 2 mm, whereby a radially innermost vertex of the second locking element rides over a radially outmost vertex of the first locking element as the fully secured position is reached and the first locking projection is located longitudinally overlapping with and circumferentially spaced from an upper end of the first thread segment and define an extension of the thread path.

The Examiner further takes the position that King '717 teaches a first locking projection 40 on the container neck separate from the first thread segments and a second locking projection 22 on the inner surface of the skirt of the closure separate from the second thread segments, said first and second locking projections being configured to resist unscrewing of the closure from the fully engaged position on the container neck after the closure has been secured or resecured on the container neck until a predetermined minimum opening torque is applied (Col. 3, lines 41 – 43); wherein said first and second locking projections longitudinally overlap the first of the second thread segments when the closure is in the fully engaged position on the container neck and whereby a radially innermost vertex of the second locking element rides over a radially outermost vertex of the first locking element as the fully secured position is reached and the first locking projection is located longitudinally overlapping with and circumferentially spaced from the upper end of a first thread segment and define an extension of the thread path. Therefore, the Examiner believes that it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify King '071 to include locking projections, as taught by King '717, in order to prevent the cap from unscrewing.

The Examiner also takes the position that King '071 and King '717 teach all of the limitations substantially as claimed except for the first and second locking projections have a length in the longitudinal direction of from 2 mm to 6 mm and a height of said locking projections is from 0.5 mm to 2 mm. It would have been

obvious to one of ordinary skill in the art at the time of the invention was made to discover the optimum or workable ranges as it involves only routine skill in the art.

The Applicant submits that the threaded container closure assembly of the subject invention is structurally and functionally different than the closure of either of the cited references. Claim 1, as amended, provides:

A threaded container closure assembly, said assembly comprising:  
a container neck having an opening;  
a closure for said neck, the closure having a base portion and a skirt portion;

a first screw thread on the neck, said first screw thread comprising one or more first thread segments, and a second screw thread on an inner surface of the skirt of the closure, said second screw thread comprising one or more second thread segments define a continuous helical thread path along which said closure travels from a fully disengaged to a fully secured position of the closure on the container neck and being configured to enable a user to secure, remove and resecure the closure into a sealing position on the neck by rotation of the closure on the neck;

a first locking projection on the container neck separate from the first thread segments and a second locking projection on the inner surface of the skirt of the closure separate from the second thread segments, said first and second locking projections being configured to resist unscrewing of the closure from the fully engaged position on the container neck after the closure has been secured or resecured on the container neck until a predetermined **unscrewing opening torque is applied**;

wherein said first and second locking projections longitudinally overlap the first or the second thread segments when the closure is in the fully engaged position on the container neck;

the height of said locking projections is such that the radially innermost vertex of the second locking element rides over a radially outermost vertex of the first locking element as the fully secured position is reached; and

the first locking projection is located longitudinally overlapping with and circumferentially spaced from an upper end of a first thread segment, or said second locking projection is located longitudinally overlapping with and circumferentially spaced from a lower end of a second thread segment, whereby the said first or second locking projections define an extension of the thread path defined by the thread segments on the neck or the closure.

Thus, the first and the second locking projections are configured to resist unscrewing of the closure from the fully engaged position on the container neck after the closure has been secured or resecured on the container neck until a **predetermined unscrewing opening torque is applied**. As taught on page 22 of the subject application, the container and closure assembly is provided with complementary locking elements on the container neck unless a predetermined unscrewing torque is applied. In contrast, while the Examiner is correct with respect to King '717 that the ratchet teeth flat walls engage and abut in locking fashion the flat walls of the ratchet portion of the container threads to prevent unscrewing the closure from the container as long as engagement is maintained (Col. 3, lines 39 – 43), the closure assembly of King '717 operates such that unlocking the closure 12 from the container 10 is by the mode of pushing downward on closure 12 until the ratchet teeth are displaced downwardly from ratchet portions 40 and 42. At this time, while maintaining this downward pressure, the user of the container and closure of King '717 can achieve removal of closure 12 from container 10 by merely rotating (unscrewing) the closure in the counter-clockwise direction. The downward force may be removed once the ratchet teeth have left the vicinity of ratchet portions 40 and 42 (See Col. 4, lines 28 – 38). Thus, unlike King '717 that operates such that the ratchet teeth resist unscrewing until a downward force is applied, whereas the locking elements of the subject application resist unscrewing until a predetermined unscrewing

torque is applied.

Accordingly, the closure of the subject invention requires a predetermined minimum opening torque whereas the closure assembly in King '717 requires a downward push on the closure until the teeth disengage, thus the closure assembly of the subject invention is structurally and functionally different than the closure of King '717.

Claim 2, as amended, provides:

A container closure assembly according to claim 1, wherein the first and/or second locking projections have sufficient strength to snap over each other without permanent deformation

The Applicant respectfully submits that unlike the projections 44/46 of the subject application there is no disclosure or teaching that the first and second locking projections of King '071 nor King '717 have sufficient strength to snap over each other without permanent deformation. With respect to King '071 locking ribs 36 cooperate with ramps 38 such that they abut when the closure is fully engaged. With respect to King '717 the ratchet teeth engage and abut in locking fashion the flat walls of the ratchet portion of the container threads to prevent unscrewing of the closure. Thus, while such teeth abut against the flat walls they do not snap over each other without permanent deformation. Accordingly, the closures of King '071 and King '717 are structurally and functionally different than the closure of the subject application.

Regarding Claim 3, the Examiner takes the position that King '071 teaches all of the limitations substantially as claimed except for locking projections with a ratio of the maximum width is at least 0.5. However, King '717 locking projections with a ratio of the maximum height to the maximum width is at least 0.5 (Fig. 7). Therefore It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify King '071 to include locking projections with a ratio of the maximum height to the maximum width is at least 0.5, as taught by King '717, in order to prevent the cap from unscrewing (col. 3, lines 41-43).

Claim 3 provides:

A container closure assembly according to claim 1 or 2, wherein for at least one of said locking projections the ratio of the maximum height to the maximum width is at least 0.5.

With respect to amended Claims 1 and 2, the Applicant restates the arguments made above with respect to Claims 1 and 2. The Applicant submits that there is no teaching in the cited references, and the Examiner has shown no teaching, as to why one would be motivated to combine the cited references and arrive at the claimed invention. Accordingly, the locking projections are structurally and functionally different than the locking projections of the subject application and therefore there is no teaching in the cited references that would motivate one to combine the references much less size either the first or second locking projections or the ratio of the maximum height to the maximum width as claimed.

With respect to Claim 4, the Examiner takes the position that King '071 teaches all the limitations substantially as claimed except for first and second locking projections which are situated near the bottom of the threads when the closure is fully secured on the container. However, the Examiner states that King '717 teaches first and second locking projections which are situated near the bottom of the threads when the closure is fully secured on the container (Fig. 7). Therefore, the Examiner believes that it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify King '071 to include first and second locking projections which are situated near the bottom of the threads when the closure is fully secured on the container, as taught by King '717, in order to prevent the cap from unscrewing.

With respect to amended Claim 1, the Applicant restates the arguments made above with respect to Claim 1. The Applicant submits that the locking projections of the subject application are structurally and functionally different than the locking projections of the cited references. Accordingly, there is no teaching or suggestion that would motivate one skilled in the art to combine the cited references and modify them to arrive at the claimed invention.

With respect to the rejections of Claims 6 – 13, the Applicant restates the arguments made with respect to independent Claim 1. Accordingly, Claims 6 – 13 that depend on independent Claim 1 are not rendered obvious in view of the cited references.



**Conclusion:**

The Applicant restates the arguments made above with respect to independent Claim 1. As shown above, the cited references are structurally and functionally different than the closure of the subject invention. Accordingly, the Applicant can see no reason as to why one would find it beneficial that out of all of the prior art for closures, one would find it beneficial to combine the cited references and then modify them along the lines of the subject invention.

The Examiner fails to show the motivation to combine the cited references and to select and structure the apparatus in such a way as to create the claimed invention. Even if all of the elements of the claim are disclosed in the cited references, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art as to why one of ordinary skill would have been prompted to combine the teachings of the references in such a way as to arrive at the claimed invention.

The Applicant submits that the only teaching of the benefits of combining the subject references to arrive at the claimed invention comes from the Applicant's own specification. Therefore, the combination of references does not teach or suggest all the claim limitations of Applicant's independent Claim 1.

Indeed, the cited references do not contain any suggestion or motivation, either

in the references themselves or in the knowledge generally available to one skilled in the art to combine and modify the reference **and the Examiner has not provided any showing of such motivation or teaching.** Because neither reference contains any teaching, motivation, or suggestion for modifying the disclosed devices along the lines of the subject invention the Examiner has not shown a prima facie case of obviousness with respect to Applicants' independent Claim 1.

In view of the foregoing Amendment and Remarks, Applicants respectfully request reconsideration of the Application and that a timely Notice of Allowance be issued in this case.

Respectfully submitted,



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April 13, 2010

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